



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,749	07/02/2002	Enno Vrolijk	723-26366 US	3497

128 7590 02/03/2005

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER

PRICE, CARL D

ART UNIT PAPER NUMBER

3749

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/069,749	VROLIJK, ENNO	
	Examiner	Art Unit	
	CARL D. PRICE	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/03/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Amendment filed 11-03-2004: Objected to under 35 U.S.C. 132

The amendment filed 11-03-2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

References to “the Figure” and the newly added reference numerals corresponding to “the Figure” as well as the drawing Figure, appearing in the Appendix of applicant’s remarks, all constitute material which is not supported by the original disclosure.

Applicant is required to cancel the new matter in the reply to this Office Action.

The Declaration submitted by applicant’s representative Charles J. Ungemach, submitted on 11-03-2005, has been entered and fully considered. The Declaration states that “Patent numbers 6,561,791 B1 and 6,537,060 B1 disclose the same subject matter as WO 99/632272 and WO 99/63273 and do not contain “new matter”. It is further noted that the specification has been amended to include patent numbers 6,561,791 B1 and 6,537,060 B1 in place of WO 99/632272 and WO 99/63273, respectively.

Applicant's arguments filed 11-03-2004 have been fully considered but they are not persuasive.

Claims 1-19 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicant has disclosed no means for, or manner of, manipulating, applying the signal of the sensor at selected points in time only”, for example.

The examiner disagrees with applicant’s assertion that the prior art reference of JP ‘258 (Japanese 09-236258) “is used over the whole operating time of the burner” since the JP ‘258 (Japanese 09-236258) reference “involves the reading of the sensor at a ‘plurality of times’ during which the fuel supply is gradually increased from minimum to maximum.”, and “The expression ‘plurality of times’ does not mean at selected points in time ... but rather substantially continuously during the whole range of operation as suggested by the expression ‘from minimum to maximum’.” Applicant’s arguments are not commensurate with the scope of the claimed invention. The invention as defined in applicant’s claims 1 and 9, for example, lack any limitation to “certain” specific points in time, or only a “few” specific points in time (see applicant’s remarks on page 9, lines 16 and 24). Claims 1 and 9, do not preclude burner operation involving the reading of a sensor at a plurality of times “while” the fuel supply is gradually increased from minimum to maximum, such as that disclosed in the English language abstract of in JP ‘258 (Japanese 09-236258). JP ‘258 (JAPANESE 09-236258) stores the values detected at the “plurality of times”. Additionally, JP ‘258 (Japanese 09-236258) monitors these values at a plurality of time during and after the “set up time” (see the attached portions of the Japanese Patent Office computer generated English language translation of JP ‘258 (Japanese 09-236258)) at specified times, namely, 1) after ignition is checked, 2) after the setup time (for example, for 5 minutes) passes, and 3) “After an operator fixes the CO sensor S after resetting by

Art Unit: 3749

OFF/ON of an equipment electric power switch etc., or he exchanges for a new thing, he performs proofreading modal control again.”. See paragraphs [0042], [0043] and [0046] of the section heading “MEANS” of the attached Japanese Patent Office computer generated English language translation) which are reproduced immediately herein below.

[0042] Step # When the flag amended [temperature characteristic] is not set by 25, temperature characteristic amendment control is performed as follows. If ignition control of a burner 2 is performed and ignition is checked (step # 26 and #27), ignition control will be suspended and said amount adjustment control of the 1st combustion will be performed (step # 28). And while the fuel amount of supply Ip is increased gradually from the minimum fuel amount of supply to the maximum fuel amount of supply and reading the detection temperature TA of a temperature sensor 25, the output value Vs of the CO sensor S, and the output value Vc of the CO sensor Sc for proofreading in each at two or more times, the storage means 107 for proofreading is made to memorize these reading value (step #29-# 32).

[0044] Step # When the flag amended [temperature characteristic] is set by 25, sensibility property amendment control is performed as follows. If ignition control of a burner 2 is performed and ignition is checked (step # 41 and #42), ignition control will be suspended and said amount adjustment control of the 1st combustion will be performed (step #43-# 48). Namely, detection temperature TA of a temperature sensor 25 An air-fuel ratio in the condition of maintaining fitness so that it may become within **2-degreeC to said laying temperature electromagnetism -- a proportioning valve 11 and a fan 4 -- controlling -- detection temperature TA After becoming within **2-degreeC to said laying temperature After the setup time (for example, for 5 minutes) passes, a fan's 4 rotational frequency is controlled to become less than said target rotational frequency so that the CO concentration D for which it asked based on the output value Vc of the CO sensor Sc for proofreading is set to about 1000 ppm.

[0046] When a pilot light 33 or 34 lights up, after an operator fixes the CO sensor S after resetting by OFF/ON of an equipment electric power switch etc., or he exchanges for a new thing, he performs proofreading modal control again.

Therefore, since the combustion equipment calibrating device of JP ‘258 (Japanese 09-236258) is operated at a plurality of times (e.g. – after ignition checking, after setup, and after an operator fixes, resets or exchanges a component), the examiner mains the position that JP ‘258 (Japanese 09-236258) meets the broadly recited limitations of applicant’s claimed invention (i.e. – “at selected points in time only” (clam 1); “after the installation of the sensor” (claim 2); “after a fresh start” (claim 3); “after a restart” (claim 4); “when stable operating conditions” have been

Art Unit: 3749

reached (i.e. – see paragraph [0025] of English language translation of JP ‘258 (Japanese 09-236258)) (claims 5-7).

The prior art reference of **EP 0 156 958** and **US005924859 (Nolte et al)** are now relied on to address the scope of the invention as now set forth in the claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19: Rejected under 35 U.S.C. 112, first paragraph

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. While applicant has only generally described a control method wherein the signal of the sensor is used for adapting the gas-air mixture to different gas qualities at selected points in time, the specification does not include necessary information regarding the manner and/or process of making and using the invention. For example, a person having ordinary skill in the art would not know applicant's intended manner and/or process by which “the signal” generated by the sensor is obtained, manipulated and/or applied to the otherwise known control methods for gas burners providing a

Art Unit: 3749

gas-air mixture. A person having ordinary skill in the art would not know, except through undue experimentation, how to generate, obtain, measure, monitor, deliver, manipulate, and interpreting a signal having otherwise non-defined characteristics unique to the "signal" generated, obtained, measured, monitored, delivered, manipulated, and interpreted and applied to conventional systems by applicants'. While the level of ordinary skill in the art is such that a person would generally be capable of operating, making and using apparatus and processes requiring obtaining, measuring, monitoring, delivering, manipulating, and interpreting and applying sensor generated signals in operating combustion control systems, applicants' specification and disclosure lack the necessary information for the person having ordinary skill in the art to make and/or use the invention. Applicants' attention is directed to the prior art references of JP '258 (Japanese 09-236258), applied in the rejection of the claims herein below, which is representative of the type, degree and specificity of information necessary to enable a person having ordinary skill in the art to make and use an invention such as that indicated in the present application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

Art Unit: 3749

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 9: Rejected under 35 U.S.C. 102(b)

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by **EP 0 156 958**.

In regard to claims 1-19, **EP 0 156 958** shows and discloses (See the English language Abstract) a control method for gas burners for providing a gas-air mixture, namely for signal for the modulating gas controller supplying a gas flow and a combustion air flow to a burner, a signal of a CO sensor, wherein the signal is used for adapting the gas-air mixture to different gas qualities at selected points in time (i.e.- “continuously or at presettable intervals of time in a cyclic sequence”).

Claims 1-19: Rejected under 35 U.S.C. 102(b)

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by **JP ‘258 (Japanese 09-236258)**.

Art Unit: 3749

In regard to claims 1-19, JP '258 (Japanese 09-236258) shows and discloses (See the English language Abstract and the document Drawing figures) a control method for gas burners for providing a gas-air mixture, namely for signal for the modulating gas controller (VC; 11,12) supplying a gas flow and a combustion air flow to a burner, a signal of a sensor (S, 25, TA), wherein the signal of the sensor (S, 25, TA) is used for adapting the gas-air mixture to different gas qualities at selected points in time (i.e.- "at a plurality of times") by using characteristics of signal generated during a time of operating the burner supply, and therefore gas-air ratio, between upper and lower limits (i.e. - "while fuel supply amount 1p is gradually increased from the minimum amount to the maximum fuel amount"), as a method for calibrating, or recalibrating, the system (i.e. - "while fuel supply amount 1p is gradually increased from the minimum amount to the maximum fuel amount"). Information gained during the method of calibrating disclosed by JP '258 is then used to determine a subsequent composition ratio of the gas-mixture (i.e. - "correcting the reference correlation stored in memory means so that they coincide" and "If the deviation of the set point of the temperature TA falls within the suitable range, the reference temperature characteristics stored in the means 103 is corrected based on the deviation"). In regard to claims 2, 3, 10, 11, 12 and 16, since the existing burner system disclosed by JP '258 is discussed to be operational during application of the calibration method one can conclude that the time at which the system is being calibrated is "after the installation of the sensor" and "after a fresh start" in the manner broadly set forth in the claims. Since the burner system operates at least with the disclosed fuel selected during installation JP '258 meets the broadly stated claim limitation of "for adapting the gas-air mixture to different gas qualities". In regard to claim 9, the burner system method of JP '258 discloses a calibration

Art Unit: 3749

system making no mention of “the aging process of a gas quality sensor” and therefore operates “independent of the aging process of a gas quality sensor”.

Claims 1-19: Rejected under 35 U.S.C. 102(e)

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by **US005924859 (Nolte et al)**.

US005924859 (Nolte et al) shows and discloses a control method for gas burners for providing a gas-air mixture including wherein a signal of the sensor is used for optimizing the gas-air mixture at selected points in time only (i.e. – “a defined number of starts or operating hours”; see column 4, lines 16-33), or to compensate for the aging process of the gas quality sensor (i.e. – “Operation-related changes in the state of the ionization electrode 4 or the gas burner 1 are consequently compensated.”).

US005924859 (Nolte et al) discloses the following:

According to the invention, a process is provided for controlling a gas burner, especially a gas blower burner, with a measuring electrode, especially an ionization electrode, which sends an electrical variable (ionization signal) derived from the combustion temperature or the lambda value to a control circuit, which compares this variable with a selected electrical set point and sets the gas-to-air ratio (lambda value) to a corresponding lambda set point. The process includes, after a certain operating time or at regular intervals, running a compulsory calibration cycle, during which the lambda value is reduced from a value >1 and during which the electrical variable (ionization signal) developing is measured. The maximum of the ionization signal (A, B, C) is stored, and that the electrical set point is adjusted with this maximum in order for the control circuit to make an adjustment to the same lambda set point. ...

... After a certain operating time, which can be determined either by a running time meter or by counting the number of times the burner is switched on, the control is briefly switched off and a calibration cycle is run. The gas-to-air ratio is compulsorily made richer, i.e., the lambda value is reduced beginning from >1, during this cycle. The electrical measured variable passes through a maximum at lambda=1. This value is fixed. If it deviates from the basic electrical set point set, the latter is adjusted. Such a deviation arises if the ionization electrode is bent, worn or fouled, which in itself would lead to an undesired change in the gas-to-air ratio. Such a change is avoided by the present invention, so that the desired lambda set point is set by the control

Art Unit: 3749

even if the proportionality factor existing between the combustion temperature and the electrical measured variable has changed.

Conclusion

See the attached PTO FORM 892 for prior art made of record and not relied upon and which are considered pertinent to applicant's disclosure.

USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on (571) 272-4877. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Carl D. Price', with a stylized, flowing script.

CARL D. PRICE
Primary Examiner
Art Unit 3749

cp